

**WASHINGTON NATURAL HERITAGE PROGRAM  
WASHINGTON DEPARTMENT OF NATURAL RESOURCES**

**RARE PLANT AND NONVASCULAR SPECIES AND RARE ECOSYSTEMS GIS METADATA**

**JULY 2017**

The Washington Natural Heritage Program (WNHP) data set contains the most authoritative information available for Washington's rare plant and nonvascular species populations and rare ecosystems. The use of these data may be used for environmental assessment or proprietary land management purposes that are consistent with the goals of Washington Natural Heritage Program. The WNHP data set represents an ongoing and incomplete inventory of the state and does not eliminate the need for field surveys.

The WNHP data set currently represents more than 7,000 site-specific records of Washington's most significant elements of biodiversity, including:

- Rare vascular and nonvascular plant species
- Rare and/or high-quality terrestrial and wetland ecosystems of special concern

The WNHP data set provides key information including:

- State and global ranks of species rarity as maintained by the Natural Heritage Network
- State and federal listing status of species
- Generalized geographic locations of inventoried element occurrences and plant communities
- Date on which an element or community was last observed, and other information

Please visit our web site for more information about the [Washington Natural Heritage Program](#). In addition to our GIS data, we have on-line field guides and publications.

## **SENSITIVE INFORMATION**

To protect our state's most imperiled resources, the Washington Natural Heritage Program provides accurate, up-to-date information to landowners, land managers, planners, consultants, and scientists. To aid the protection of rare species, we provide information that includes known locations of rare species populations. However, distributing precise locations of the most vulnerable species could compromise their protection and compromise landowners' interests as well. The Natural Heritage Network treats precise locations of rare species populations as sensitive information.

In designing the WNHP dataset, our goal was to create a distributable GIS dataset usable in land use planning, land management, and conservation projects. In order to balance the interests of data users with species protection, the precise locations of rare plant populations are not included. These locations are instead represented by 'areas-of-concern'. Occurrences of species considered critically imperiled are generalized as larger areas-of-concern polygons.

Some known element occurrences have been completely removed from this dataset before distribution because information on these elements is considered sensitive at this time.

Locations of high-quality wetland and terrestrial ecosystems are not considered sensitive information; these mapped boundaries represent precise locations in the WNHP dataset.

## **GEOGRAPHIC EXTENT AND COMPLETENESS**

This dataset represents information archived by WNHP within Washington State as of the date at the top of this document. Staff update the internal WNHP database as new information is available. This dataset is updated approximately every 6 months. Datasets that are over 1 year old should be updated by downloading a new dataset from <https://fortress.wa.gov/dnr/adminsa/DataWeb/dmmatrix.html>.

The WNHP dataset is the most authoritative source of rare plant, nonvascular, and ecosystem population information for Washington State. However, absence of information in this dataset for any given location does not indicate that it lacks significant natural features. Many areas of the state have not been adequately inventoried for these rare features. For areas with no features in the dataset and for features in this dataset that have not been inventoried recently, survey by a trained scientist would be required to verify the presence or absence of rare features.

## **TOPOLOGY**

The features in this dataset (element occurrences) can be either single polygons or multipart polygons. It is also possible for the polygon or multipart polygons to contain holes. Overlapping polygons, including those with identical geometry, are also common in this dataset.

## **FEATURE CLASS DESCRIPTIONS**

### **wnhp\_current:**

This feature class contains the most recent records and the most precise element occurrence location information. Recent is defined here as 1977 and newer, as the Washington Natural Heritage Program was created in 1977. The elements in this dataset are believed to be extant (still existing, PRES\_CODE = 'E'). The Last Observed Date (LAST\_OBS) field shows the date of the last survey for the element occurrence.

Records older than 1977 will be found in the current dataset only if they have been verified with recent aerial photography or are in locations protected from human disturbance. Records in the current dataset are not duplicated in the historic dataset.

### **wnhp\_historic:**

This feature class contains older records of element occurrences that have not been revisited since 1977 (PRES\_CODE = 'H'). This dataset also includes a small number of element occurrences that have been observed more recently but are of imprecise location information (PRES\_CODE = 'E' AND PRECISION IN ('M' OR 'G')). Also included are element occurrences with precise location but which have been reported extirpated or destroyed since the last observation (PRES\_CODE = 'X').

Records in the historic dataset are not duplicated in the current dataset.

## **ACKNOWLEDGEMENTS WHEN USING THIS DATASET**

Please acknowledge the Washington Natural Heritage Program as a source of information whenever you include WNHP data in your maps, reports, or publications. Since this dataset is periodically updated, please include the last GIS update date (GIS\_UPDT field).

## **CONTRIBUTING INFORMATION TO WHNP**

Scientists statewide have collected the information contained in the WNHP database. For more information about how you can contribute siting reports to the Washington Natural Heritage Program, please visit our website at: <http://www.dnr.wa.gov/NHPdata>.

## **GLOSSARY**

**Element:** An Element is a unit of natural biological diversity. Elements represent species (or infraspecific taxa), natural communities, or other non-taxonomic biological entities (e.g., migratory species aggregation areas).

**Element Occurrence (EO):** An area of land and/or water in which an Element is, or was, present.

**Area of Concern:** An area representing the general location of an element occurrence. The occurrence location is generalized in order to prevent intended or unintended damage to the element.

## **CONTACTS AT WNHP**

**Information Requests** – WNHP data require biological expertise for proper interpretation and use in analysis. Requests for additional data archived by WNHP should be address to:

NATURAL HERITAGE PROGRAM – INFORMATION REQUESTS  
CRT DIVISION  
WASHINGTON DEPARTMENT OF NATURAL RESOURCES  
PO BOX 47014  
OLYMPIA WA 98504 7014

Fax: 360.902.1789

Email: [natural\\_heritage\\_program@dnr.wa.gov](mailto:natural_heritage_program@dnr.wa.gov)

**Data Steward** – for questions about this dataset please contact:

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## FIELD AND ATTRIBUTE DEFINITIONS

### EO\_ID

Unique ID for the element occurrence.

### NHET\_CD

Element type. A two-character code indicating the type of element.

RP	rare plant species
RN	rare nonvascular species
TW	high-quality terrestrial, aquatic, or wetland ecosystem

### EL\_CODE

Element code. A 10 character alphanumeric code that is a unique ID for the element.

### SCI\_NAME

Scientific name. Recognized scientific name of the element.

### COM\_NAME

Common name. Common name of the element, as recognized by WNHP.

### SPP\_CODE

Species code. A unique species code as defined in the USDA Plants database (<https://plants.usda.gov/java/>). The code is usually 4 characters long. The first 2 characters are the first 2 characters of the genus name. The second 2 characters are usually the first 2 characters of the species name. If there are multiple species with identical codes, a modifying number is added to create a unique code.

### FED\_STAT

Federal Status. Listed federal status of the taxon under the U.S. Endangered Species Act.

LE Listed Endangered. Any taxon that is in danger of extinction throughout all or a significant portion of its range and which has been formally listed as such in the Federal Register pursuant to the Federal Endangered Species Act.

LT Listed Threatened. Any taxon, which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and which has been formally listed as such in the Federal Register pursuant to the Federal Endangered Species Act.

C Candidate. Taxon for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list it as an endangered or threatened species.

### ST\_STAT

State Status. Listed state status of the taxon, which takes into account abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness.

E Endangered. In danger of becoming extinct or extirpated from Washington within the foreseeable future if factors contributing to its decline continue. Populations of this taxon are at critically low levels or its habitats have been degraded or depleted to a significant degree.

T Threatened. Likely to become endangered in Washington within the foreseeable future if factors contributing to its population decline or habitat degradation or loss continues.

S Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state without active management or removal of threats.

X Extirpated. Considered to be possibly extinct or extirpated from Washington based on recent field searches. A taxon listed as Extirpated may be a high priority for field investigations and, if found, would be assigned another value

Blank No state status has been assigned.

### **S\_RANK**

State rank. State rank characterizes the relative rarity or endangerment within the state of Washington. Factors including, but not limited to, number of known occurrences are considered when assigning a rank. Two codes together represent an inexact range (e.g., S1S2) or different ranks for breeding and non-breeding populations (e.g., S1B, S3N).

S1 Critically imperiled in the state because of extreme rarity or other factors making it especially vulnerable to extirpation from the state. (Typically 5 or fewer occurrences or very few remaining individuals or acres)

S2 Imperiled in the state because of rarity or other factors making it very vulnerable to extirpation from the state. (Typically 6 to 20 occurrences or few remaining individuals or acres)

S3 Rare or uncommon in the state. (Typically 21 to 100 occurrences)

S4 Widespread, abundant, and apparently secure in state, with many occurrences, but the taxon is of long term concern. (Usually more than 100 occurrences)

S5 Demonstrably widespread, abundant, and secure in the state; believed to be ineradicable under present conditions.

SH There are historical occurrences, perhaps not verified in the past 20 years, but the taxon is suspected to still exist in the state.

SU Possibly in peril in the state, but status is uncertain. More information is need.

SX Believed to be extirpated from the state with little likelihood that it will be rediscovered.

SNR Sufficient time and effort have not yet been devoted to ranking of this taxon.

The following qualifiers are used in conjunction with the state rank values described above.

'?' qualifier is used with numeric ranks to denote uncertainty; more information may be needed to assign a rank with certainty. The '?' qualifies the character it follows (e.g., 'SE?' denotes uncertainty of exotic status).

### **G\_RANK**

Global Rank. Global rank characterizes the relative rarity or endangerment of the element worldwide. Factors including, but not limited to, number of occurrences are considered when assigning a rank. Two codes (i.e., G1G2) are used to indicate a range of ranks.

G1 Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. (Typically 5 or fewer occurrences or very few remaining individuals or acres).

G2 Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range. (6 to 20 occurrences or few remaining individuals or acres).

G3 Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range. (21 to 100 occurrences)

G4 Widespread, abundant, and apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery. Thus, the element is of long term concern. (Usually more than 100 occurrences)

G5 Demonstrably widespread, abundant, and secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GU Unrankable. Possibly in peril range wide but status uncertain. More information is needed.

GNR Sufficient time and effort have not yet been devoted to ranking of this taxon.

The following qualifiers are used in conjunction with the Global Ranks described above.

T\* Where \* is a number or letter similar to those for the G ranks listed above, but indicating subspecies or variety. For example, 'G3TH' indicates a species that is ranked G3 with this subspecies ranked as historic.

Q Taxonomic status is questionable and the numeric rank may change with taxonomy.

? The specified rank is uncertain; more information may be needed to assign a rank with certainty.

### **EO\_NUM**

EO number. Unique observation ID number of the element occurrence for that particular species/ecosystem.

### **PRECISION**

Precision code. One character code indicating relative level of mapping precision.

S Location is precise. Most likely mapped at 1:24,000 scale or better.

M Location is believed to be accurate within a 1 mile radius.

G Location is known from general information and believed to be accurate within a 5 mile radius.

### **LAST\_OBS**

Last observation. Year in which the element occurrence was last observed to be present.

### **PRES\_CODE**

Presence code. One character code indicating whether or not the element is extant, historic, or extirpated.

E Extant. An element occurrence is still believed to exist.

H Historic. An element occurrence that may exist but has not been verified recently.

Includes element occurrences recorded in reports or literature before 1977.

X Extirpated. A former element occurrence that no longer exists. The habitat has been destroyed or the element has not been found on a subsequent visit, and is not expected to be rediscoverable at this site.

### **EO\_RANK**

Element occurrence rank. Rank assigned as an assessment of the quality and viability of an individual element occurrence. This rank, which is somewhat element specific, is based on condition and size of the occurrence and the quality of the immediate landscape. EO\_RANK represents the relative value of an element occurrence with respect to others of that element. This rank is assigned by a professional biologist who has been trained in Heritage methodology and is familiar with the particular element. For each element, clearly defined Element Occurrence Specifications are developed and used to assure that different biologists would assign the same rank to any particular element occurrence. Two codes together represent an inexact range (e.g., BD).

A	Excellent
B	Good
C	Fair
D	Poor
E	Verified extant
F	Failed to find the element at the mapped location of the element occurrence
H	Possibly extirpated (historical)
X	Extirpated (no longer present)
Blank	Not ranked.

The following qualifier is used in conjunction with the EO ranks described above.

? The specified rank is uncertain; more information may be needed to assign a rank with certainty.

### **EO\_CODE**

Element occurrence code. Unique alphanumeric code for an element occurrence that is comprised of the EL\_CODE, the occurrence number of the observation, and 'WA' to uniquely tie the observation to the state of Washington.

### **GIS\_UPDATE**

Last GIS update date. Date assigned to each record represents the update version of the GIS dataset. WNHP schedules its update of this dataset approximately twice year. Format is YYYYMMDD and is replicated in all records with each update.